

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of

Federal-State Joint Board on
Universal Service

Forward-Looking Mechanism for High
Cost Support for Non-Rural LECs

CC Docket No. 96-45

CC Docket No. 97-160

COMMENTS OF VERIZON¹

The Common Carrier Bureau's proposal to use the Delphi programming language in place of Turbo-Pascal for the loop portion of the universal service proxy model is a step in the right direction towards making the model more accessible and giving the industry a more meaningful opportunity to provide analysis and comments. *See* Public Notice DA 01-1458 (rel. June 20, 2001). However, it would be an even greater improvement if the Bureau used Visual Basic as is currently used for the rest of the model. In addition, the Bureau should make other adjustments and improvements in the model to make it more accurate and easier for commenters to assess.

The current use of two computer languages in the proxy model – Turbo Pascal for the loop portion and Visual Basic for everything else – is a legacy of the Commission's decision to adopt modules from different models that were under consideration during this proceeding. *See*

¹ The Verizon telephone companies ("Verizon") are the affiliated local telephone companies of Verizon Communications Corp. These companies are listed in Attachment A.

Federal-State Joint Board on Universal Service, Fifth Report and Order, 13 FCC Rcd 21323, ¶4 (1998). As many parties pointed out previously, Turbo Pascal is an obsolete computer language that makes it difficult for outside parties to understand the model and to verify its results. The conversion from Turbo Pascal to Delphi appears to have been dictated by the fact that it was easy for the staff to accomplish without making major alterations to the program. However, Delphi is not one of the most widely used programming languages, and running the Delphi version posted on the Commission's Internet site seems to be taking even longer than the earlier Turbo Pascal version, which itself was time consuming.

Rather than take a half step in improving the model, the Bureau should go all the way and translate the loop module to Visual Basic, to match the use of Visual Basic in the rest of the model platform. This should not be difficult, as we understand that Qwest has already done so and plans to submit a copy to the Commission. Visual Basic is much more widely used than Delphi, and it is easier to analyze. Using a consistent computer language throughout the proxy model will enhance its accessibility and allow the industry to provide more timely and substantive suggestions for improvements.

The Bureau should take this opportunity to correct other aspects of the model. First, the Bureau should change the methodology for counting special access lines. As noted by BellSouth in its June 14, 2001 *ex parte* filing, the model's conversion of special access lines to voice grade equivalent lines causes the model to significantly understate costs. This is caused by an inconsistency between the way that the model calculates loop cost and the way that special access lines are counted in demand, which is divided into cost to develop per-line cost. For

purposes of calculating loop investment, the model takes special access demand from the carriers' ARMIS reports and converts it into a mix of DS0 lines, each of which uses one copper pair, and DS1 lines, each of which has two copper pairs. The model makes no adjustments for DS3 and higher bandwidth services. However, in developing the line count for the denominator of the formula, the model takes all ARMIS special access demand and turns it into DS0 equivalents, meaning that a DS1 service is treated as 24 DS0 equivalents and a DS3 service is treated as 672 DS0 equivalents. This results in a much higher number of "lines" for the denominator than the number of "lines" used to calculate cost in the numerator, artificially reducing the cost per line for supported residential voice grade service. The Bureau should fix this mismatch by calculating special access demand as a function of the level of demand for business lines, rather than using DS0 equivalents out of ARMIS. Estimating the number of special access "lines" as a fraction of the number of business lines in a particular area is more likely to reflect the facilities actually used to serve special access demand.

The Bureau also should update the customer location data in the model to match updates to line counts. The Commission recently updated the model to include 1999 line counts without updating the customer locations, in essence assuming that additional demand was served without any additional cost. This creates an exaggerated economy of scale and again artificially reduces the cost per line. Verizon first brought this problem to the Commission's attention in a September 28, 1999 *ex parte* filing.² Earlier this year, Sprint filed a petition for reconsideration of the Bureau's decision to update the line counts for 2001 without updating the customer

² *See* GTE Letter from W. Scott Randolph, CC Docket Nos. 96-45 and 97-160 (filed Sept. 28, 1999).

location and road data. *See* Sprint Corporation’s Petition for Reconsideration, CC Docket No. 96-45 (filed Jan. 26, 2001). The repeated updating of demand while leaving a significant determinant of cost constant makes the model increasingly unreliable. The Bureau should update the customer location data to match the same time period as is used for line counts in the demand calculations.

The Bureau’s efforts to improve the model should be accompanied by better documentation of changes that have been incorporated. While history.doc on the Bureau’s web site documents a few changes and corrections that have been made to the model, the documentation lacks sufficient detail for the parties to identify all of the changes and to determine why some change were made while others suggested by the parties were not. The model includes a new table “road factor” that is not documented in history.doc. In addition, history.doc does not mention the change in procedure for calculating special access lines for wire centers that cannot develop the special access ratio. Better documentation will assist the industry in assessing changes and in verifying the validity of the results.

Finally, the model still includes many inconsistent inputs that frequently produce anomalous results. For example, the underground normal structure costs for an area with a density of 100 lines per square mile is more than four times that of an area with a density of 99 lines per square mile.³ Hence, a small change in lines may lead to wide fluctuation in costs. The

³ As is shown in the spreadsheet entitled “hcpm_inputs_October1999.xls,” the cost of normal underground structure for an area with density of 99 lines per square mile is only \$1.68 per square foot, but the cost of the same structure for an area with a density of 100 lines per square mile is \$7.63 per square foot.

Bureau should rely on industry data to remove such inconsistency in inputs and to produce more real-world results.

Conclusion

The Bureau should make the additional effort to convert the entire model to Visual Basic at this time, in addition to correcting and updating the model's line count and customer location data.

Respectfully submitted,

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THE VERIZON TELEPHONE COMPANIES

The Verizon telephone companies are the local exchange carriers affiliated with Verizon Communications Inc. These are:

Contel of the South, Inc. d/b/a Verizon Mid-States
GTE Midwest Incorporated d/b/a Verizon Midwest
GTE Southwest Incorporated d/b/a Verizon Southwest
The Micronesian Telecommunications Corporation
Verizon California Inc.
Verizon Delaware Inc.
Verizon Florida Inc.
Verizon Hawaii Inc.
Verizon Maryland Inc.
Verizon New England Inc.
Verizon New Jersey Inc.
Verizon New York Inc.
Verizon North Inc.
Verizon Northwest Inc.
Verizon Pennsylvania Inc.
Verizon South Inc.
Verizon Virginia Inc.
Verizon Washington, DC Inc.
Verizon West Coast Inc.
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